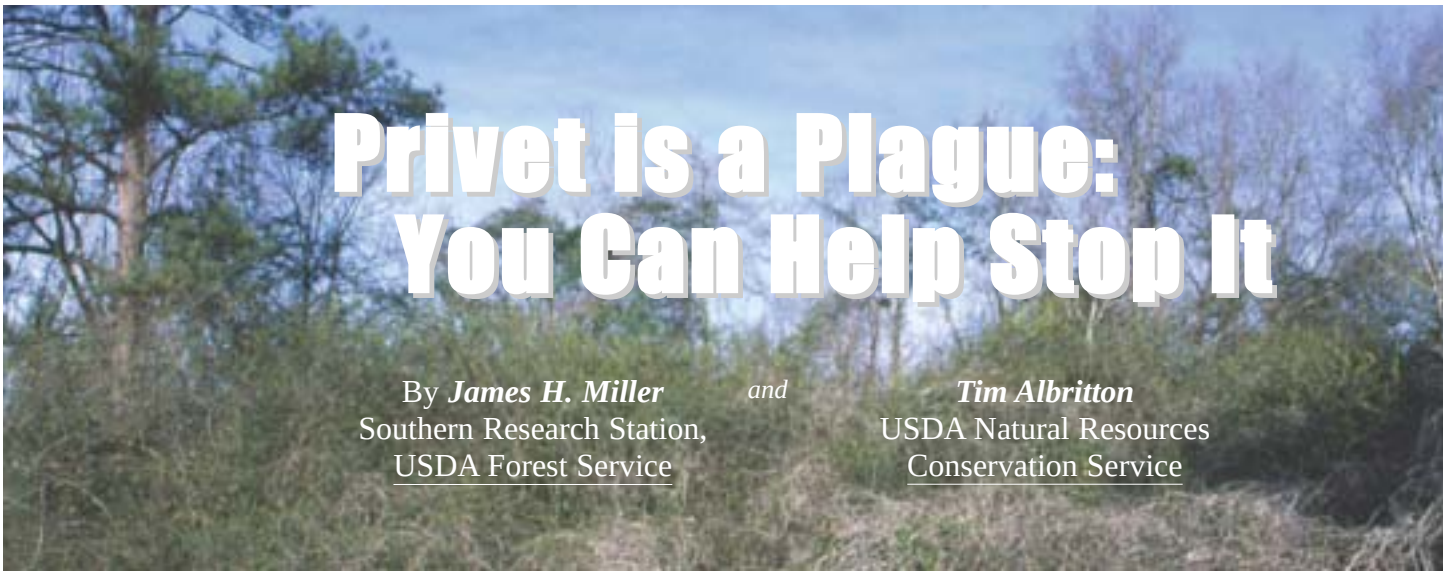

Privet is a Plague: You Can Help Stop It

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Have you noticed how privet appears to be exploding across the landscape? Privet is that rampant small-leaved shrub that stays green in winter and can be seen along many fencerows and forest edges, as well as invading interior forests. What at one time was considered the staple farm house shrub is now completely out of control. It has become a plague. In fact, it is spreading through our most precious forests — bottomland hardwoods and forest preserves. What was once considered beauty to grace our homes has turned against us to rapidly spread along roadsides and stream-sides to infiltrate our forests.

Landowners and managers can either stand by and watch the takeover or start the process to battle this plant plague. To begin, we want to tell you how to identify the different species of privet that are invading our forests, and then explain how you can combat them.

While a few flowering privet shrubs in spring was once a beautiful sight, thousands of plants have now become hideous and dominating. The dense stands prevent forest regeneration by displacing native trees and plants, and also deny management and recreational access. Recent surveys show that there is even more privet now in southern forests than kudzu. This explosive occupation by privet has been documented by a Natural Resources Conservation Service survey of privet shown in Figure 1. This figure shows the increasing invasion of only one species of privet — Chinese privet. Actually there are more than three different species that are causing us increasing problems.

How to Identify Privets

The most invasive non-native privet is Chinese privet *(Ligustrum sinense)* or what we often call "common privet." It was introduced into the United States from China in 1852. Like many introduced plants of that time, it was actually imported here from England after being transported there from China. Figure 1 shows how Chinese privet remained docile for about 100 years, occurring in only a few counties in the Southern US; then for some unexplained reason, it began to spread rapidly in the 1950's and continues to do so today.

Chinese privet is the smallest leaved privet (0.5 to1.5 inches long). It is termed semi-evergreen to evergreen, meaning it retains mostly green leaves during the winter. All privets have leaves that are opposite to one another along the branches. The other two species of privet that are increasingly invading our forests are truly evergreen, thick-leaved species, mainly glossy privet *(Ligustrum lucidum)* and Japanese privet *(L. japonicum)*. Their leaves range from 2 to 6 inches long. As the name implies, Japanese privet came from Japan (through England), with introduction in about 1845, while glossy privet originated in China and was introduced way back in 1794. Only Japanese privet is still widely sold as an ornamental, while sales have stopped for the most part for Chinese and glossy privet because of their extremely invasive nature.

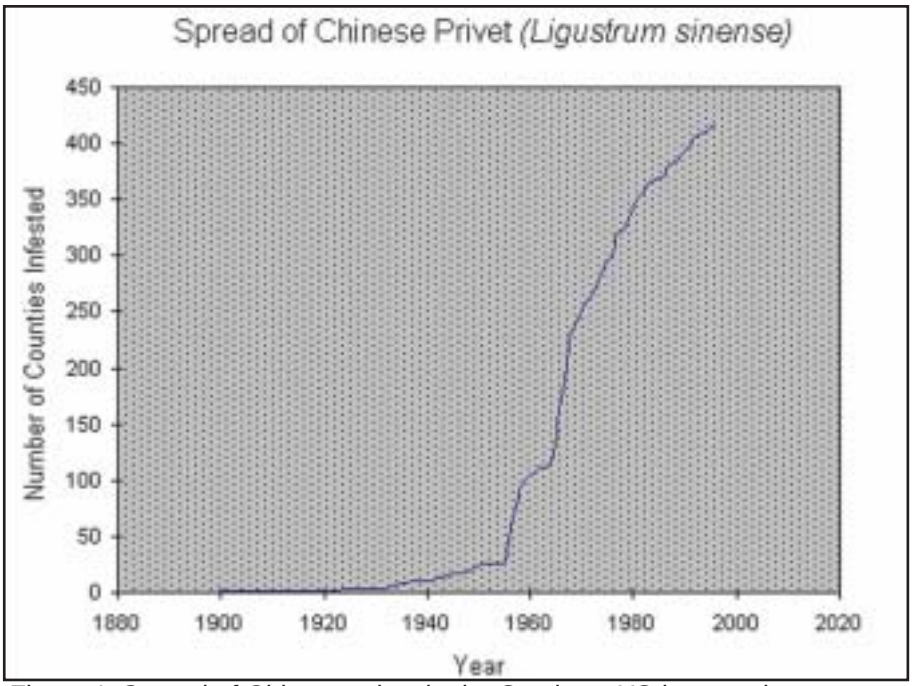

Figure 1. Spread of Chinese privet in the Southern US by counties.

There are at least two other species of ornamental privet escaping into southern forests: European privet *(L. vulgare)*, which closely resembles Chinese privet, and border privet *(L. obtusifolium)*, which resembles glossy and Japanese privet. All of these species can occur in the same infestation. Thus, the privet plague will be gaining new recruits. The good news is that all these privet species are controllable.

Because privets retain their foliage during fall and winter, they have the competitive advantage over native plants that go dormant. During warm sunny days in fall and winter, privets can produce and store sugars from photosynthesis while native plants sleep. Another big advantage is their abundant fruity seeds, just perfect for spread by birds and animals. Privets are in the olive family and just like the olives we buy in a jar, there is a thin fleshy fruit covering a hard seed in the center. These dark-purple or blackish fruit often dangle in huge clusters on privet branches in winter and early spring when most birds are migrating north. Birds are the main means of spread and are the most probable cause of the privet explosion since the 1950's. Birds have learned to count on privets during their northern migration. Another factor for the explosion has been the removal of so much southern lands from cultivation during this period, a prime invitation for invasion.

Deer is another species of wildlife that browse seedling plants of Chinese privet, often on the expanding edges of privet patches. Of course, the rapid growth of Chinese privet soon puts the tender twigs out of reach. It does not take but a few years for privets to reach their maximum heights of 20 to 35 feet. Chinese privet has multiple stems from a base that will eventually lean and arch. Glossy and Japanese privets grow more as central upright stems. The prolific root sprouting of Chinese privet yields thousands of sprouts per acre that spread and intensify a patch, along with a horde of seedlings.

Regardless of the use by birds and deer, many more species of wildlife are denied suitable habitat by privet infestations and the infested lands become worthless for timber production, recreation, and native plant conservation.

Successful Privet Control

Privets can be controlled with concerted efforts and by using methods that have proven to be effective. A combination of treatments in an integrated manner usually will provide the most effective strategy for successful eradication. Many forms of treatment can be used such as: prescribed burning; tractors with rootrakes and shredder-mulcher heads; brushsaws; pulling and digging plants; and safe and effective herbicides. The right combination depends on the extent of your privet infestation, the size of the privet, your objectives, and your budget.

The usual objective is to first eradicate the privets and then facilitate native plant re-establishment. Selective removal of privets before they become an infestation is the best situation to address, using treatments that have minimal impact on associated native plants. But large infestations can be eradicated with a more concerted effort.

For multi-acre infestations of large privet, tractors with rootrakes or mower heads are often the best approach. Some of the over-sized bush hogs or mulcher-shredders used on utility right-of-ways can grind large privet shrubs to chip mulch. Another approach would be to chainsaw or brushsaw large privet. Of course, all stumps should be immediately treated with *Garlon 3A* or a glyphosate herbicide as a 20% solution (2.5 quarts per 3-gallon mix) in water with a surfactant to prevent resprouting. If safety to surrounding trees is not an issue, then *Arensal AC*, *Chopper*, or *Velpar L* as a 10% solution (1 quart per 3-gallon mix) can be used, staying mindful of soil activity. With all cut stump treatments, sawdust and chips should be swept from the stump before herbicide application to prevent de-activation. Applications can be made with a backpack sprayer or utility spray bottle, or a wick applicator, dropper bottle, or paintbrush.

Tree injection, hack-and-squirt, and basal stem sprays are other methods for treating privet stems larger than one inch in diameter. Privet injection and hack-and-squirt are difficult because of the multiple stems and the need to treat each one. The long tube of an E-Z-ject injector permits easier treatment of the multi-stemmed base while a machete and squirt bottle will aid with treating each stem.

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Chinese Privet
Up to 30 feet in height.
Leaves: thin, 0.5 to 1.5 inches long, tip often indented.

Glossy Privet
Up to 35 feet in height.
Leaves: thick, 3 to 6 inches long, yellowish rimmed.

Japanese Privet
Up to 20 feet in height.
Leaves: thick, 2 to 4 inches long, under veins protrude.

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A mulcher-shredder or "brush-hog" can be used to tackle large privet.

The herbicides and mixtures specified previously can be used with the same considerations for the safety of non-target plants.

Basal stem sprays using *Garlon 4* as a 20% solution (2.5 quarts in 3-gallon mix) in commercially available basal oil, diesel fuel, or kerosene with a penetrant (check with herbicide distributor) are effective on stems up to 3 inch diameter. Some herbicides, such as *Pathfinder II* and *Pathway,* are sold ready-to-use with these ingredients. Thoroughly wet the lower one foot of each privet stem with this mixture.

Foliar spray treatments are the most cost-effective way to eradicate privets and should be used whenever the foliage can be reached using spray applicators. Resprouts of privet that are topkilled by burning or brush mowing can be more easily treated with foliar sprays. A test of forest herbicides as foliar sprays was conducted in resprouted Chinese privet near Auburn, Alabama using September applications. The results shown in Table 1 reveal that glyphosate herbicides (such as *Accord)* were the most effective with *Arsenal AC* being next most effective at the rates tested. Additional tests have shown that glyphosate used during warmer days of winter and spring are even more effective than September, while treatments during summer dry periods are least effective.

For Chinese privet control, thoroughly wet all leaves with one of the following herbicides in water with a surfactant (April or October to January): a glyphosate herbicide as a 3% solution (12 ounces per 3-gallon mix); or *Arsenal AC* as a 1% solution (4 ounces per 3-gallon mix). Remember that *Arsenal* can injure or kill desirable plants having roots in the treated area and is not advisable for use under desirable hardwoods and pines.

For the waxy-leaved glossy and Japanese privet, thoroughly wet all leaves with one of the following herbicides in water with a surfactant: August through January — *Arsenal AC* as a 1% solution (4 ounces per 3-gallon mix), or *Garlon 4* as a 3% solution (12 ounces per 3-gallon mix); and March to June or October to January — a glyphosate herbicide as a 3% solution (12 ounces per 3-gallon mix).

Depending on the area to be treated, foliar sprays can be applied using a backpack sprayer or sprayers mounted on tractors, ATVs, or helicopters. Directed foliar sprays are applications that are directed towards the target plant with care to minimize spray to desirable neighboring plants.

With any invasive plant control strategy, one to many treatments will be required to be successful. In addition, follow-up surveillance and treatment of new arrivals will be a must. It may be necessary to coordinate your treatments with your neighbors to prevent re-entry.

Getting Assistance

The Environmental Quality Incentives Program (EQIP) is sponsoring a special project this year to address invasive species. Privet is one of the seven invasive species listed in the Invasive Plants Management Project. For more information about this project and how to apply for assistance contact your local NRCS office.

The Alabama Agricultural and Conservation Development Commission Program (AA&CDC) can provide cost share assistance for landowners interested in forestry improvement practices. However, funding may be limited. There are two elements within the forestry improvement section that apply:

1) One practice authorizes cost sharing for clearing land occupied largely by scrubby brush of no economic value (this would include privet), and reforesting the site with a desirable species.

2) If privet is invading where there is already a stand of desirable trees, another cost share practice authorizes a herbicide release treatment of desirable seedlings and young trees.

Additional information on EQIP programs is available at this website: http://www.al.nrcs.usda.gov/programs/costshare/EQIP/index.html.

Rehabilitation

Rehabilitation is the most important final phase of an integrated invasive plant eradication and reclamation program. This phase requires establishment and/or release of fast-growing native plants (such as loblolly pine, waxmyrtle, and sweetgum) that can out-compete and outlast any surviving invasive plant while stabilizing and protecting the soil. Recommendations for preventing and managing plant invasions like privets on a specific site include maintaining forest vigor with minimal disturbance, constant surveillance, treatment of new unwanted arrivals, and finally, rehabilitation following eradication.

Cautions and Disclaimer

Registered herbicides are deemed safe by the US Environmental Protection Agency (EPA) for treating invasive plants when used properly. Herbicides used improperly can be injurious to humans, animals, and plants. Special precautions should be exercised when using herbicides in wetlands and around water. Always carefully read and follow label instructions. Follow recommended practices for the disposal of surplus herbicides and pesticides and their containers.

Use of trade names is for reader's information and does not constitute official endorsement or approval by the US Department of Agriculture to the exclusion of any suitable product or process.

Herbicide	Rate per Acre	% Control
Accord	1.5 gal	97
Arsenal AC	24 fl. oz	80
Escort	3.3 oz	70
Garlon 4	1.5 gal	24
Oust	6 oz	22
Vanquish	1.5 gal	5
Tordon K	0.5 gal	5
Transline	21 fl. oz	0

Table 1. Third-year Privet Control with Forestry Herbicides.